

**What is claimed is:**

1. A method of manufacturing an animal chew comprising:
  - (a) providing a base material and a preheated binder and forming a mixture, wherein the composition has a selected moisture level "x";
  - (b) introducing said mixture to a screw conveyor wherein the temperature of the mixture in the screw conveyor is maintained at a temperature of at or below about 200<sup>0</sup> F;
  - (c) introducing the product of step (b) on to rollers which form a sheet and wherein said rollers provide heating and/or cooling;
  - (d) introducing the product of step (c) into a heated chamber wherein the temperature is maintained at or below 200<sup>0</sup> F;
  - (e) cutting said product of step (d) into a desired shape, wherein the final moisture level is "y", and  $y < x$ .
2. The method of claim 1, wherein the temperature of said screw conveyor is maintained at or below a temperature of about 100<sup>0</sup> F.
3. The method of claim 1 wherein the temperature of said heated chamber is maintained at or below a temperature of about 100<sup>0</sup> F.
4. The method of claim 1 wherein the cooling provided by said rollers is cooling at or below room temperature.
5. The method of claim 1 wherein said heated chamber comprises a heated tunnel.

6. The method of claim 1 wherein the moisture level "x" is at or below 50 % (wt).
7. The method of claim 1 wherein the base material is an edible material.
8. The method of claim 1 wherein the edible material is selected from the group consisting of starch, rice meal, soybean, casein, denatured and partially hydrolyzed casein, protein, rawhide, dairy, meat by-products, plant, vegetable matter or animal matter, and mixtures thereof.
9. The method of claim 1 wherein said base material may include vitamins, minerals and/or herbs.
10. The method of claim 9 wherein the vitamins are selected from the group consisting of A, C, B<sub>12</sub>, D, E, K, thiamine, riboflavin, panthothenic acid, niacin, pyridoxine, folic acid, choline, biotin, choline and mixtures thereof.
11. The method of claim 9 wherein the minerals are selected from the group consisting of calcium, phosphorous, potassium, sodium, chloride, magnesium, iron, copper, manganese, zinc, iodine, selenium, Co, Mo, Cd, As, Si, V, Ni, Pb, Sn, and mixtures thereof.

12. The method of claim 9 wherein said herbs are selected from the group consisting of St. Johns Wort, Kava Kava, Ginkgo Biloba, Ginseng, Echinacea, Catsclaw, Camomile, Golden Seal, Saw Palmetto, Valerina, V. Agnus-Castus, Black Cohosh, Bilberry, Milk Thistle, and mixtures thereof.
13. The method of claim 1, wherein said base mixture includes glucosamines or chondroitin, and mixtures thereof.
14. The method of claim 1 wherein said preheated binder upon cooling serves to bind said mixture together.
15. The method of claim 1 wherein said binder comprises a mixture of water, gelatin, corn syrup and glycerin.
16. The method of claim 1, wherein "y" is at or below 15% (wt).
17. The method of claim 1, wherein "y" is between 10-12% (wt).
18. The method of claim 1, wherein the shear rate is maintained below  $10^3 \text{ (sec)}^{-1}$ .
19. An edible animal chew toy formed by:
  - (a) combining a base material selected from the group of starch, rice meal, soybean, casein, denatured and partially hydrolyzed casein, protein, rawhide, dairy, meat by-

products, plant, vegetable matter or animal matter, and mixtures thereof, with a binder to form a mixture;

(b) introducing said mixture to a screw conveyor wherein the temperature of the mixture in the screw conveyor is maintained at a selected temperature;

(c) introducing the product of step (b) on to rollers which form a sheet and wherein said rollers provide heating and/or cooling;

(d) introducing the product of step (c) into a heated chamber at a selected temperature

(e) cutting said product of step (d) into a desired shape, wherein the final moisture level is "y", and  $y < x$ , and wherein said selected temperatures are selected such that the base material is not substantially thermally degraded by said temperature selection.

20. The edible animal chew toy of claim 18, wherein said selected temperature of said screw conveyor and said heated chamber is set at or below 200 F.

21. The edible animal chew toy of claim 18 wherein said preheated binder is maintained at a temperature to allow for mixing with said base material and which binder upon cooling solidifies.

22. The edible animal chew of claim 18, wherein the shear rate applied by said screw conveyor and/or said rollers is maintained below  $10^3 \text{ (sec)}^{-1}$ .

23. An edible animal chew for birds and small mammals formed by:

- (a) combining a base material selected from the group of nuts and fruits, with a binder to form a mixture;
- (b) introducing said mixture to a screw conveyor wherein the temperature of the mixture in the screw conveyor is maintained at a selected temperature;
- (c) introducing the product of step (b) on to rollers which form a sheet and wherein said rollers provide heating and/or cooling;
- (d) introducing the product of step (c) into a heated chamber at a selected temperature
- (e) cutting said product of step (d) into a desired shape, wherein the final moisture level is “y”, and  $y < x$ , and wherein said selected temperatures are selected such that the base material is not substantially thermally degraded by said temperature selection.

24. The edible chew of claim 23 wherein said nuts are selected from the group consisting of rolled oats, peanuts, hulled sunflower seed, walnuts, almonds, pecans or mixtures thereof.

25. The edible chew of claim 23 wherein the fruits are selected from the group consisting of banana, mango, papaya, raisins, dehydrated apples, cranberries or mixtures thereof.